Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:
2015 - 2016 LARIAC Lidar: Los Angeles Region, CA

1.2. Summary description of the data:
Geographic Extent: This dataset is lidar point cloud data, which encompasses the entirety of the LARIAC4 project, approximately 4214 square miles. Dataset Description: This dataset consists of 13,810 lidar point cloud LAS tiled files. Each LAS file contains lidar point information, which has been calibrated, controlled, and classified. Each file represents a separate tile of lidar. Ground Conditions: water at normal levels; no unusual inundation; no snow.

The NOAA Office for Coastal Management (OCM) downloaded this lidar data from the USGS site: ftp://rockyftp.cr.usgs.gov/vdelivery/Datasets/Staged/Elevation/LPC/Projects/USGS_LPC_CA_LosAngeles_2016_LAS_2018/ and processed the data to be available on the Digital Coast Data Access Viewer (DAV). NOAA Office for Coastal Management processed all classifications of points to the Digital Coast Data Access Viewer (DAV). Classes available on the DAV are: 1 (Unclassified), 2 (Ground), 7 (Low Noise) , 9 (Water), 10 (Ignored Ground), 17 (Bridges), 18 (High Noise).

In addition to these lidar point data, the bare earth Digital Elevation Models (DEM) created from the lidar point data are also available. These data are are available for custom download at the link provided in the URL section of this metadata record.

Breakline data are also available. These data are are available for download at the link provided in the URL section of this metadata record. These products have not been reviewed by the NOAA Office for Coastal Management (OCM) and any conclusions drawn from the analysis of this information are not the responsibility of NOAA or OCM.

1.3. Is this a one-time data collection, or an ongoing series of measurements?
One-time data collection

1.4. Actual or planned temporal coverage of the data:
2015-09-27 to 2016-10-18

1.5. Actual or planned geographic coverage of the data:

W: -118.9593531, E: -117.63773, N: 34.8263383, S: 33.2916879

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
Point Cloud (Digital)

1.7. Data collection method(s):
(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:
NOAA Office for Coastal Management (NOAA/OCM)

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:
NOAA Office for Coastal Management (NOAA/OCM)

2.4. E-mail address:
coastal.info@noaa.gov

2.5. Phone number:
(843) 740-1202

3. Responsible Party for Data Management
Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:

3.2. Title:
Data Steward

4. Resources
Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

5. Data Lineage and Quality
NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible
(describe or provide URL of description):

Process Steps:

- 2017-04-20 00:00:00 - Lidar Preprocessing: Airborne GPS and IMU data were merged to develop a Single Best Estimate (SBET) of the lidar system trajectory for each lift. Lidar ranging data were initially calibrated using previous best parameters for this instrument and aircraft. Relative calibration was evaluated using advanced plane-matching analysis and parameter corrections were derived. This relative calibration was repeated iteratively until residual errors between overlapping swaths, across all project lifts, was reduced to 3 cm or less. Data were then block adjusted to match surveyed calibration control.

- 2017-04-20 00:00:00 - Lidar Post-Processing: After generation of the calibrated point cloud data in LAS format from Optech's Lidar Mapping Suite (LMS), the data is imported into the TerraSolid software suite (running under Bentley's MicroStation) for matching and classification. Upon import, the data is divided into tiles for the purpose of creating more manageable data. Once imported to TerraSolid, blocks of data containing overlapping flight lines are selected. The data in these blocks is analyzed by TerraMatch and adjustments to the roll, pitch, heading, and scale that minimize any data misalignment between the flight lines are computed. These adjustments are then applied to the entire mission's worth of data. Data across the mission is then manually reviewed to ensure proper alignment between flightlines has been achieved. This process is then repeated for each mission; once complete, intra-sortie alignment is verified.

- 2018-12-12 00:00:00 - The NOAA Office for Coastal Management (OCM) downloaded 13,810 laz files from the USGS rockyftp site. The files contained elevation and intensity measurements for the Los Angeles area and Santa Catalina island. The data were in CA State Plane Zone 5 coordinates and NAVD88 (Geoid12B) elevations in feet. The data were classified as: 1 -Unclassified, 2 - Ground, 7 - Low Noise, 9 - Water, 10 - Ignored Ground, 17 - Bridges, 18 - High Noise. NOAA Office for Coastal Management processed all classifications of points to the Digital Coast Data Access Viewer (DAV). Classes available on the DAV are: 1, 2, 7, 9, 10, 17, 18.   OCM performed the following processing on the data for Digital Coast storage and provisioning purposes: 1. The LAStools software scripts lasinfo and lasvalidate were run on the laz files to check for errors.   2. An internal OCM script was run to check the number of points by classification and by flight ID and the gps and intensity ranges.   3. Internal OCM scripts were run on the laz files to convert from

orthometric (NAVD88) elevations to ellipsoid elevations using the Geoid 12B model, to convert from CA State Plane Zone 5 coordinates to geographic coordinates, to convert from elevations in feet to meters, to assign the geokeys, to sort the data by gps time and zip the data to database and to http.

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation
The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?
No

6.1.1. If metadata are non-existent or non-compliant, please explain:
Missing/invalid information:
- 1.7. Data collection method(s)
- 3.1. Responsible Party for Data Management
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:
NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:
https://www.fisheries.noaa.gov/inport/item/55233

6.4. Process for producing and maintaining metadata
(describe or provide URL of description):

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access

NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:
NOAA Office for Coastal Management (NOAA/OCM)

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:
https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=8651
https://coast.noaa.gov/htdata/lidar2_z/geoid12b/data/8651

7.3. Data access methods or services offered:
Data is available online for bulk and custom downloads.

7.4. Approximate delay between data collection and dissemination:

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection
The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to

identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:
(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):
Office for Coastal Management - Charleston, SC

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?
Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions
Line and Staff Offices may extend this template by inserting additional questions in this section.